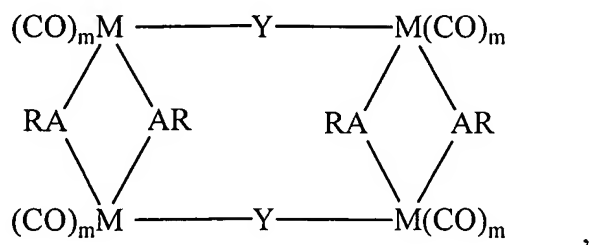


# ABSTRACT

This invention features a supramolecule having the following structure:



M is a transition metal atom that is rhenium (Re), manganese (Mn), chromium (Cr), molybdenum (Mo), tungsten (W), iron (Fe), ruthenium (Ru), or osmium (Os); Y is a nitrogen-based didentate ligand; A is O, S, Se, or Te; R is C<sub>3</sub>~C<sub>16</sub> alkyl, (CH<sub>2</sub>)<sub>n</sub>-aryl, or (CH<sub>2</sub>)<sub>n</sub>-aryl-(O-C<sub>1</sub>~C<sub>16</sub> alkyl)<sub>p</sub>, in which n is 0-15, p is 1-3; and m is 1, 2, 3, 4, or 5.

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